



## Habitat Restoration

### What is habitat restoration and why is it important?

Habitat restoration consists of removing weedy, non-native plants, decompacting (e.g., tilling) the soil, and planting or seeding a disturbed area with a specified "palette" of native plants. The palette consists of the types and numbers of native plant species that are characteristic of a certain plant community, such as coastal sage scrub, that

was present before the area was disturbed. Returning a degraded, former habitat to a healthy, self-sustaining condition can improve the health of the whole ecosystem. For example, restoration fills in the gaps where habitat has been damaged, pro-

vides more areas for wildlife to find food and reproduce, eliminates bare soil that erodes and fills our lagoons with sediment. Protecting and restoring native habitat is especially important in an urban envi-



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## Featured Species: White-Tailed Kite

The white-tailed kite (*Elanus leucurus*) is a beautiful raptor that looks like a cross between a gull and a hawk. It has similar coloration to common gulls that



Note the red eyes, beak and talons. W. Kloetzer.

we see in Carlsbad: a white body with black and grey wings. But it is, in fact, a member of the Accipitridae family (hawks, kites, and eagles). If you

look closely, you'll see the heavy, curved bill and talons that are typical of hawks, and red eyes. Besides the overall look of the bird, the best way to identify the white-tailed kite is by observing the

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### Did you know...?

- Thousands of pounds of dog poop wash into our lagoons, streams, and oceans every year, contaminating our waterways with bacteria and other diseases. Gulp!
- Overwatering your yard attracts non-native ants (the ones you see in your house), which has a detrimental effect on horned lizards.

## Upcoming Events

### City of Carlsbad Trails Program

The City of Carlsbad Trails Program is focused on preserving, maintaining, protecting, developing, and operating trails in Carlsbad in perpetuity for public use.

For maps and descriptions of the trails located throughout Carlsbad, please visit

[www.carlsbadca.gov/trails](http://www.carlsbadca.gov/trails). If you are interested in becoming a trail volunteer, please contact Sue Irey, Community Volunteer Coordinator 760-434-2929 or sign up at [www.VolunteerinCarlsbad.net](http://www.VolunteerinCarlsbad.net).

### 2nd Saturday Trail Work Events\*

**8:30 am—12:00 am** (except where noted)

**February 20th** Lake Calavera - Meet at 8:00 am at the dam spillway. See Event Highlight (at right).

**March 13th** Rancho Carrillo

**April 10th** Lake Calavera

**May 8th** Native Plant Seminar

**June 5th** National Trail Day, Carlsbad Oaks North

\*Because Second Saturday events are subject to change, volunteers will be notified of meeting times by email. Contacts: Gary Hill 760-727-5764, Liz Ketabian 760-434-2978.

### Center for Natural Lands Management Guided Hikes

**April 24th** Carlsbad Oaks North 9:00am

**Location:** Meet at the Carlsbad City Trails trailhead, behind the Progressive Insurance lot, west of the Lionshead & Melrose intersection.

Join us for a rare guided hike with the preserve manager to enjoy the coast live oak forest, riparian woodland, freshwater marsh, scrub oak woodland, chaparral, coastal sage scrub and some rare plants. Bring water & snacks, sun protection, boots with ankle protection, and pants. Optional extended hike with the preserve manager into the habitat north of Faraday Avenue. See [www.carlsbadhmp.org/pdfs/pub-outreach/BVCreek-2010-05-15.pdf](http://www.carlsbadhmp.org/pdfs/pub-outreach/BVCreek-2010-05-15.pdf) for more details.

## Event Highlight

### Volunteer Opportunity: Trail Maintenance at Lake Calavera

**Saturday, February 20, 2010**

**8:00 am—12:00 pm**

Please join City volunteers, the San Diego Mountain Biking Association and the Center for Natural Lands Management for a work event to improve the nature preserve. Lots of dirt work, including erosion repair, closing of unsustainable trails, placement of gravel bags and other erosion control measures along with the installation of informational kiosks will all be on the itinerary. Water and snacks will be provided as well as some trail tools for volunteers. If you plan to participate, please meet at the dam spillway for check-in and an assignment. Please also remember to wear gloves, pants, hiking boots and sunscreen. Parking is available on Strata and Saddle Dr.

Questions about this event may be directed to Liz Ketabian at the City of Carlsbad Parks and Recreation Department at 760-434-2978.



**May 15th** Buena Vista Creek Ecological Reserve 9:00am

**Location:** Meet at eastern end of Marron Rd., east of El Camino Real, just south of Highway 78.

Hike along the riparian edge of this urban stream with CNLM preserve manager. Some unusual and rare native plants are to be found here. Riparian nesting bird usage of the area is extensive, as are birds passing through.

Bring water & snacks, sun protection, and water-proof boots with ankle protection. See [www.carlsbadhmp.org/pdfs/pub-outreach/CbadOaksNorth-2010-04-24.pdf](http://www.carlsbadhmp.org/pdfs/pub-outreach/CbadOaksNorth-2010-04-24.pdf) for more details.

## Upcoming Events *continued from page 2*

### Preserve Calavera –dates and times to be determined

- Spring native plant hike with CNPS native plant expert James Dillane
  - Summer insect lecture/hike- What's Bugging You ?
  - Spring endangered bird lecture/hike
- Details will be posted on the Preserve Calavera website at [www.preservecalavera.org](http://www.preservecalavera.org).

## Habitat Restoration *continued from page 1*

ronment like Carlsbad because of the pressures exerted by dense development and intense land use. Some of these pressures include (a) the spread of invasive plants that “jump” from yards and other landscaping into the preserve, choking out native plants; (b) an increase in hard surfaces (e.g., paving roads, concreting drainage channels, putting up buildings), which results in much less water percolating into the ground, reducing filtration of contaminants, and increasing erosion in streams and rivers; and (c) the build up of fertilizers, pesticides, and pet waste,

which get washed into our waterways (unlike wild animals, pet waste contains lots of nasty bacteria!).

Habitat restoration that takes place within our urban wild lands helps preserve the integrity of our natural heritage, and can provide us with a connection to nature in our own “backyard”, giving us a sense of place and interconnectedness with

the natural world, and allowing a moment of respite from our busy lives.

There are several habitat restoration projects going on in Carlsbad, and some of these are being done by volunteers. For example, Preserve Calavera volunteers planted 160 native plants at the Buena Vista Creek Ecological Reserve.

To learn about City-sponsored restoration projects, see “Recent Accomplishments” section, page 4.



## Featured Species *continued from page 1*

way it flies. This bird feeds mostly on small rodents and lizards, which it finds by gliding over grassland areas. When it sees a potential meal, it hovers in place with the wings held up high and the feet and wings hanging down to get a better look, and then it dives down at high speed to pounce on its prey (this flight pattern is also characteristic of northern kestrels). Gulls, on the other hand, are more interested in



Hovering behavior

fish. If you see them flying over a grassland, chances are they are on their way to somewhere else! In addition to grassland, white-tailed kites may be found foraging in agricultural areas, marshes, riparian, or wetland areas that are adjacent to grasslands. White-tailed kites nest in the tops of trees or shrubs, such as oaks, toyon, eucalyptus, cottonwoods, coyote brush, or willow trees, that are adjacent to grasslands. They lay 3 – 5 eggs from late January

to May. Once the eggs hatch, it takes about 3 weeks for the young to go from downy to fully-feathered. As the young become older and start flying on their own, their parents teach them how to hover. The greatest threat to this species is loss of grassland habitat due to development. This species is Fully Protected by the federal government, which means that it is illegal to capture, harm, harass, or kill this bird. It is also illegal to collect feathers or eggs.



## Recent Accomplishments

One of our biggest accomplishments this quarter is the installation of 6 acres of coastal sage scrub habitat restoration in the northern part of Lake Calavera Preserve, which will provide homes to nu-

merous native plant and animal species. Five acres of restoration was funded by a grant from SANDAG TransNet Environmental Mitigation Program and matching funds from the City of Carlsbad,

and one acre was funded entirely by the City. It can take up to five years for restored areas to become self-sustaining, so please help us protect these areas!

### Coastal Sage Scrub Habitat

*Habitat* is the place that provides food, shelter, and conditions for breeding. It includes the plants, soils, hydrology, topography, etc. *Coastal sage scrub habitat* consists of an assemblage of plants that commonly occur together in dry areas near the coast, usually on south-facing or west-facing slopes. These conditions are ideal for the federally threatened California gnatcatcher.

California sagebrush and California buckwheat are usually the most dominant types of plants in coastal sage scrub habitat. Other common species include coyote bush, California encelia, deerweed, and black sage.



California sagebrush  
(*Artemisia californica*)



California buckwheat (*Eriogonum fasciculatum*)

Coastal California gnatcatcher  
(*Polioptila californica californica*)



CA encelia (*Encelia californica*)



Black sage  
(*Salvia mellifera*)



Coyote bush (*Baccharis pilularis*)



Monkey flower  
(*Mimulus aurantiacus*)



Deerweed (*Lotus scoparius*)



## Restoration Method

Habitat restoration is being conducted by using the "imprinting" method. The imprinter rakes (de-compacts) the soil, creates a waffle pattern, spreads native seeds, and injects beneficial soil microbes, all at once. The depressions hold water when it rains, eliminating the need for irrigation.



### Before

This is what the disturbed areas looked like before the restoration project began.



The vegetation consisted of non-native, invasive weeds, such as annual grasses and mustards, which cannot support native wildlife.

### Pre-Project Site Visit

City Departments of Parks/Recreation and Planning, Habitat West (restoration company), and the Preserve Steward came out to assess the site prior to initiating work on the property.



### Step 1

Fence the area to protect it while restoration takes place.



The heavy-duty tines rip the soil to de-compact it (fluff it up) so the seeds have plenty of air, and water can percolate into the soil. The tines are hollow, and connected by a hose to the seed and soil amendment mix.

### Step 2

Prepare the imprinter with the appropriate native seed mix, soil microbes, and soil amendments.



The roller creates the waffle pattern, pushing the seeds down, and providing little pockets that hold water when it rains.

Front view. The seed/soil amendment mix goes in here.



### Step 3

Imprint and wait for the rains to come!



### Step 4

With careful monitoring and weed management, the restored habitat will grow into healthy, mature coastal sage scrub like this!





### CITY OF CARLSBAD HMP PROGRAM

Contact Information  
Mike Grim — HMP Coordinator or  
Rosanne Humphrey — Preserve Steward

City of Carlsbad  
Environmental Management Division  
1635 Faraday Ave.  
Carlsbad, CA 92008-7314

Phone: 760-602-4623  
E-mail: [HMP@carlsbadca.gov](mailto:HMP@carlsbadca.gov)

We're on the Web!  
[www.carlsbadhmp.org](http://www.carlsbadhmp.org)

## Interested in selling your land for conservation?

If you are interested in exploring the possibility of selling some or all of your property for open space preservation, you can contact the City (Mike Grim). In addition, the following organizations may be able to assist you:

- Trust for Public Lands
- Land Trust Alliance
- The Nature Conservancy
- California Dept. of Fish and Game
- SANDAG Environmental Mitigation Program
- California Coastal Conservancy

## Adding/Removing Your Name from the Mailing List



If you would like us to add or remove your name from our mailing list, please send us an email at [HMP@carlsbadca.gov](mailto:HMP@carlsbadca.gov).

You can also send us your questions or suggestions!

## About Our Website

Please come visit our website at [www.carlsbadhmp.org](http://www.carlsbadhmp.org). There is an abundance of information available, including:

- **Interactive preserve map.** Hover over the map with your mouse and individual preserves light up (note: this only works with Internet Explorer). Click on a preserve area, and a pop-up window will give you all of the basic information about that preserve.
- **Species and habitats:** Learn about native species and habitats in the Carlsbad area.
- **Maps:** download maps, including preserve system, vegetation, gnatcatcher core area, and more!
- **Documents:** an archive of educational materials, regulatory documents, preserve management plans, work plans, annual reports, etc.
- **FAQs:** Learn the answers to all of your questions! Some answers include an option for a more technical, expanded answer.
- **Links:** An abundance of links and resources for all topics related to plant and animal species, conservation, restoration, mapping tools, etc.
- **RSS feed:** keep up to date with our RSS feed. Just look for this symbol and click on it for the latest website update.



## How You Can Help

There are many ways you can help protect Carlsbad's precious preserves. Here are a few ideas:

- Donate your time
- Donate money or badly needed items
- Take personal responsibility for preserve conservation by learning about edge effects, and following the steps outlined in our edge effects brochure [www.carlsbadhmp.org/pdfs/edgeeffects.pdf](http://www.carlsbadhmp.org/pdfs/edgeeffects.pdf)

Here are some programs that could use your donations:

### *Citywide Trails Adopt-A-Trail Program*

Parks and Recreation Department. See brochure [www.carlsbadhmp.org/newsletter/vol1-no1-adoptatrail.pdf](http://www.carlsbadhmp.org/newsletter/vol1-no1-adoptatrail.pdf) or call Liz Ketabian (760-434-2978) for more information about how to donate your time or money.

### *Center for Natural Lands Management (CNLM)*

CNLM is a non-profit organization that manages many of the preserves within Carlsbad. Economic times are tough, and they could really use your help purchasing tools and materials, such as fencing (i.e., lodgepole), chainsaws, weed whips, skid sprayers, and power tools. These tools will be used to remove invasive species. Call Markus Spiegelberg or go to [www.cnlm.org](http://www.cnlm.org) for more information 619-295-4953.